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Space Information: Key to Military Dominance



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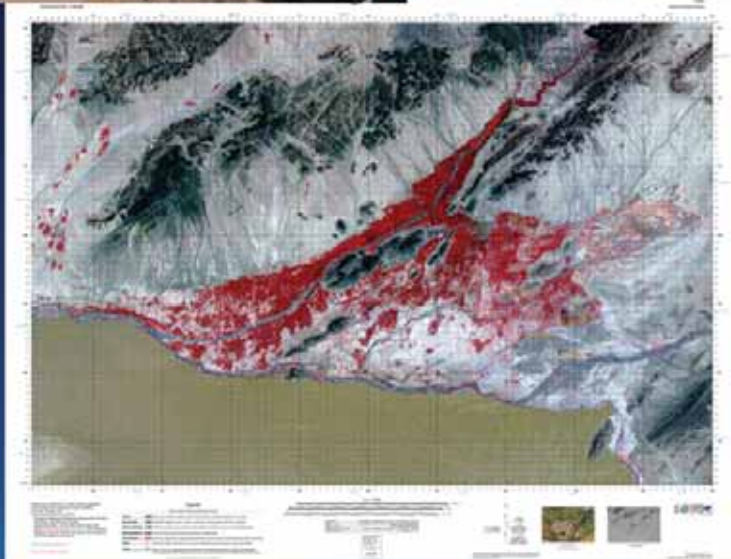
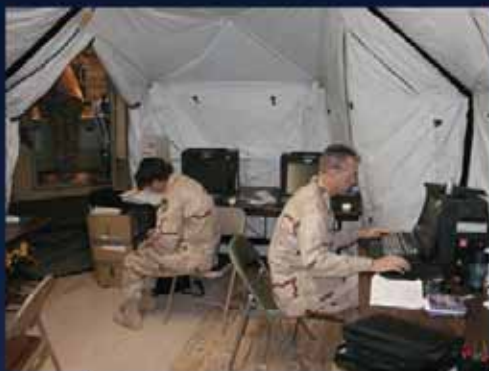
Recent military operations in Afghanistan and Iraq have highlighted the importance integrated technology has had on the conduct of warfare as it is used to support joint warfighters on the modern battlefield. Nowhere is this change more significant than the contributions by Space-based systems and products. The changes in warfare's depth, breadth, simultaneity, speed and surgical nature have significantly increased the way we utilize Space to conduct warfare, from tactical to strategic levels.

Command decisions can be made and executed rapidly, aggressively and decisively because of our Space-based assets. Information relayed "beyond line of sight" distances by Space data links has demonstrated time and again a distinct additive value. The use of Space information sources and real time Space data links to support decision processes enhance our ability to plan and structure the most advantageous time and location to engage the enemy. Knowledge of the battlefield from a global perspective allows rapid movement of combat and combat support capabilities to ensure the right force is generated and sustained at the right place and time. Information from Space assets gives us accurate weather dynamics as we anticipate weather effects on combat operations. This knowledge allows us to adjust planning and operations to maximize our advantages and minimize our disadvantages. For focused surgical engagements, Space information supports delivery of the right munitions and force elements at the right place and at the right time to achieve maximum effects on the enemy while minimizing collateral damage. The resulting "shock and awe" can demoralize the enemy's will to continue, and thus shortens the time of conflict. These greatly shortened decision and execution times also contribute to reduced casualties, friendly and enemy.

We plan to maintain our decisive edge in combat, and that means staying on top of new technologies and capabilities embedded in the future force structure. Space plays a critical role in the way we fight; so many of the organizational, materiel and doctrinal changes help the Army maintain that dominance in Space operations.

Our missions and roles are expanding in missile defense, information operations, command and control and intelligence, surveillance and reconnaissance, or ISR. As these areas move from a legacy of tactical, operational and strategic levels of war to a global focus, new demands are placed on our ability to support this expanded role — making change inevitable. For example, in the past we treated theater missile defense and national missile defense as separate entities, having little or no dynamic interrelationship. In the new environment, we recognize the need for more integration, so we now have global missile defense. Both enemy capabilities and our responses to aggression necessitate the change, and we see the need for a global information grid, or GIG, information operations capability. The GIG will be technically challenging to implement and operationally transforming in the capabilities to execute war with a global reach.

Organizational changes are necessitated both because of recent changes to the Unified Command Plan and the Army's vision of what it needs in terms of Space support for future conflicts. These organizational changes supported the standing up of the new U.S. Strategic Command by defining the Army's roles, missions and relationships to that command. They also better streamline the Army for defining what it needs from Space, and how to get that capability embedded in processes used by the warfighter. Further, these changes not only ensure support to warfighters, but also gives them the necessary training, processes and capabilities to exploit



this support to better accomplish the mission.

Materiel changes are occurring at the macro and micro levels. The GIG is an example of a capability that will require significant new technology exploitation in the form of new materiel solutions. We are changing the command and control capabilities embedded in our operations centers, and how they relate to joint, interagency and multi-national organizations. These changes exploit the latest information technology developments, allowing greater interaction among multiple agencies. We can also make more rapid, informed and optimal decisions.

We are moving to a "system-of-systems" approach with information-centric architectures supporting greater warfighting effectiveness using fewer resources. We are also involved in pushing technology to overcome potential limitations, susceptibilities or vulnerabilities in fielded critical capabilities. The U.S. Army Space and Missile Defense Command is developing technologies that give warfighters the ability to use Global Positioning System equipment even as the enemy conducts denial activities against our current satellite grid and its communications services.

Organizational changes and new materiel capabilities

necessitate new doctrine, tactics and techniques if they are to be fully exploited. The Army is working hard to evolve mission essential tasks, and define how these tasks will be accomplished to satisfy the exploitation of new materiel capabilities in accordance with revised organizational structures supporting our joint warfighters.

U.S. Space and Missile Defense Command is adjusting to the Army changes as we examine how we do business relative to Space. We are at the forefront of implementing organizational change to jointly develop advanced Space-centric technologies. We are exploring advanced Army Space concepts and evolving doctrine and tactics for the continued utilization of Space. Our focus ensures that we match materiel solutions with state-of-the-art Space training. The joint warfighter will be assured of Space information dominance regardless of the mission situation. To support this objective, SMDC/ARSTRAT provides the means to explore new concepts and capabilities through rigorous Space-oriented analysis, simulation and rapid prototyping to get those capabilities to the field as quickly and judiciously as possible.